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EXAMINER

BARAN, MARY C

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/807,070
Filing Date: March 23, 2004
Appellant(s): WARRIOR ET AL.

Kenneth D. Springer
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 25 June 2008 appealing from the FINAL Office action mailed 28 January 2008 and the Advisory Action dated 15 April 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 5-9 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The 35 U.S.C. 102 rejections of claims 6-9, 13 and 24 and the 35 U.S.C. 103 rejections of claims 5 and 26 have been withdrawn. Appellant's arguments with respect to these claims are persuasive and therefore the rejections pertaining to claims 5-9, 13, 24 and 26 have been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,430,414	SOROKINE et al.	8-2002
6,711,408	RAITH	3-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3, 10-12, 14-17, 19-24, 25, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sorokine et al. (U.S. Patent No. 6,430,414) (hereinafter Sorokine).

Referring to claim 1, Sorokine teaches operating a sensor net (see Sorokine, column 7 lines 9-13), comprising:

detecting access attempts by one or several mobile devices to multiple nodes within said sensor net (see Sorokine, column 7 lines 9-15);

calculating a respective probability of future access by a mobile device (see Sorokine, column 10 lines 58-62) for each of said multiple nodes in response to said detecting (see Sorokine, column 7 lines 15-18);

communicating information related to said calculating probabilities through said sensor net (see Sorokine, column 7 lines 18-20); and

routing measurement data for collection to respective ones of said multiple nodes utilizing said calculating probabilities (see Sorokine, column 1 lines 32-35).

Referring to claims 2, Sorokine teaches receiving probabilities of future access from a mobile device by least one node of said sensor net and communicating said received probabilities through said sensor net, wherein said routing further utilizes said received probabilities to route measurement data (see Sorokine, column 7 lines 9-22).

Referring to claim 3, Sorokine teaches that said detecting, calculating and communicating occur repetitively causing routing of measurement data to vary

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dynamically in response to changes in access patterns associated with mobile device (see Sorokine, column 7 lines 27-32).

Referring to claim 10, Sorokine teaches selecting a destination collection point utilizing said communicated information (see Sorokine, column 7 lines 45-54).

Referring to claim 11, Sorokine teaches selecting multiple destination collection points utilizing said communicated information (see Sorokine, column 7 lines 45-54).

Referring to claim 12, Sorokine teaches calculating a group probability of access to at least one of said multiple destination collection points (see Sorokine, column 8 line 60 – column 9 line 4); and comparing said calculated group probability of access to a threshold value (see Sorokine, column 9 lines 31-49).

Referring to claim 14, Sorokine teaches communicating information that is indicative of a change in previously communicated information related to said probabilities of future access (see Sorokine, column 7 lines 23-31).

Referring to claim 15, Sorokine teaches that said mobile devices are cellular devices (see Sorokine, column 1 lines 7-12).

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Referring to claim 16, Sorokine teaches a sensor device for operating a sensor net (see Sorokine, column 7 lines 9-13), comprising:

means for detecting and recording attempts to access measurement data by mobile devices (see Sorokine, column 7 lines 9-15);

means for calculating a probability of future access by a mobile device to said sensor device utilizing said recording access attempts (see Sorokine, column 10 lines 58-62 and column 7 lines 15-18);

means for receiving information related to probabilities of future access associated with other sensor devices within said sensor net (see Sorokine, column 10 lines 58-62 and column 7 lines 15-18);

means for communicating information related to probabilities of future access to other sensor devices (see Sorokine, column 7 lines 18-20); and

means for routing measurement data within said sensor net in response to said means for calculating and said means for receiving (see Sorokine, column 1 lines 32-35).

Referring to claim 17, Sorokine teaches means for receiving probabilities of future access from a mobile device by least one node of said sensor net and communicating said received probabilities through said sensor net, wherein said routing further utilizes said received probabilities to route measurement data (see Sorokine, column 7 lines 9-22).

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Referring to claim 19, Sorokine teaches communicating information related to probabilities of future access to other sensor devices limits communication to information associated with a subset of sensor devices within said sensor net (see Sorokine, column 7 lines 15-32).

Referring to claim 20, Sorokine teaches communicating selects said subset of sensor devices in relation to respective probabilities of access to said subset of sensor device and a cost function (see Sorokine, column 8 lines 31-44).

Referring to claim 21, Sorokine teaches routing employs source address routing to communicate measurement data originating at said sensor device (see Sorokine, column 7 lines 15-22).

Referring to claim 22, Sorokine teaches selecting a plurality of collection points utilizing said source address routing (see Sorokine, column 7 lines 45-54).

Referring to claim 23, Sorokine teaches that said plurality of collection points are selected by determining a probability of access to at least one of said plurality of collections points (see Sorokine, column 8 line 60 – column 9 line 4).

Referring to claim 25, Sorokine teaches a method of operating a sensor net (see Sorokine, column 7 lines 9-13), comprising:

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detecting access attempts by one or several mobile devices to multiple nodes within said sensor net (see Sorokine, column 7 lines 9-15);

determining probabilities of future access by said mobile devices to nodes of said sensor net (see Sorokine, column 10 lines 58-62 and column 7 lines 15-18);

distributing information related to said determined probabilities through said sensor net (see Sorokine, column 7 lines 18-20); and

routing measurement data utilizing said distributed information related to said determined probabilities (see Sorokine, column 1 lines 32-35).

Referring to claim 27, Sorokine teaches receiving information from a mobile device related to future access activity of mobile devices (see Sorokine, column 7 lines 9-22).

Referring to claim 28, Sorokine teaches receiving at a first node identification of a plurality of collection points (see Sorokine, column 7 lines 9-15); selecting a subset of said plurality of collection points using a cost function related to communicating to the plurality of collection points (see Sorokine, column 7 lines 15-18); and communicating information related to said determined probabilities limited to said subset to a second node (see Sorokine, column 7 lines 18-20).

Claim Rejections - 35 USC § 103

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2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorokine et al. (U.S. Patent No. 6,430,414) (hereinafter Sorokine) in view of Raith (U.S. Patent No. 6,711,408).

Referring to claim 4, Sorokine teaches all the features of the claimed invention except that said routing measurement data varies in response to the time of day when said routing is performed.

Raith teaches that said routing measurement data varies in response to the time of day when said routing is performed (see Raith, column 8 lines 62-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sorokine to include the teachings of Raith because routing measurement data in response to time would have allowed the skilled artisan to avoid barring new call attempts (see Raith, column 8 lines 55-61).

Referring to claim 18, Sorokine teaches all the features of the claimed invention except that probabilities of access are correlated to a time of day.

Raith teaches that probabilities of access are correlated to a time of day (see Raith, column 8 lines 62-64).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sorokine to include the teachings of Raith because routing measurement data in response to time would have allowed the skilled artisan to avoid barring new call attempts (see Raith, column 8 lines 55-61).

(10) Response to Argument

Examiner's response to Appellants arguments against the rejection of claims 1-3, 6-17, 19-25, 27 and 28 under 35 U.S.C. 102.

Claim 1

Appellant argues that Sorokine does not teach "calculating a respective probability of future access by a mobile device for each of the multiple nodes in response to said detecting" or "routing measurement data for collection to respective ones of said multiple nodes utilizing said calculated probabilities. However, Appellant's arguments are not well taken. The Sorokine reference meets every limitation of claim 1. Sorokine teaches a network of base stations and mobile stations where information is transferred back and forth between base station and mobile station (i.e. operating network) and the base station collects and gathers, or senses, information (i.e. sensor) (see Sorokine, column 7 lines 9-13). Because the network contains base stations which detect information from the mobile stations, Sorokine teaches operating a sensor network (see Sorokine, column 7 lines 9-13).

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Sorokine further teaches that the mobile station calls, or accesses, multiple base stations (i.e. access attempts of multiple nodes). By accessing each base station and determining the strength of the power from each base station, a neighbor list of all possible neighboring base stations is generated (see Sorokine, column 7 lines 9-13 and column 9 lines 31-32). Therefore, each base station, or node, detects access attempts by the mobile stations in the sensor network, as described above.

Sorokine further explains that the calls made by the mobile station to the base station run on the reverse channel (R-PICH) in a traffic state. The traffic state indicates the amount of activity over the channel during a period of time. The data from the R-PICH is subjected to prediction techniques which are used to search the neighbor list to determine the highest likelihood (i.e. calculated probability) for the best handoff of the mobile access to the most active base station (i.e. future access) (see Sorokine, column 7 lines 9-11 and column 9 line 1). Therefore, a respective probability of future access, or highest likelihood of future access, is calculated in response to the access attempts to the base stations.

Sorokine further teaches that the neighbor list is sent to both the mobile station and a base station controller, and the base station controller generates an effective neighbor list. The effective neighbor list consists of each base station that has a sufficiently strong R-PICH measurement (i.e. calculated probabilities) (see Sorokine, column 8 lines 5-15). Because the neighbor list is searched using prediction techniques and transmitted from the base station to the mobile station, information related to the calculated probabilities is communicated through the sensor net.

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Sorokine further teaches that the base station controller then transmits, or routes, the effective neighbor list to the base station serving the mobile station (see Sorokine, column 8 lines 5-21 and lines 31-33). The effective neighbor list is made up of base stations which have sufficiently strong R-PICH data measurements. Therefore, measurement data is routed to various nodes using the calculated probabilities.

Claim 2

Appellant argues that Sorokine does not teach “receiving probabilities of future access from a mobile device by at least one node in the sensor net.” However, Appellant’s arguments are not well taken. Sorokine teaches a base station receiving an effective neighbor list from the base station controller (see Sorokine, column 8 lines 5-21). The neighbor list is a prioritized list of all possible base stations which are most likely to be selected for future handoff, or routing.

Claims 6-9

Appellant’s arguments are persuasive and therefore the rejections with respect to claims 6-9 have been withdrawn.

Claim 12

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Appellant argues that Sorokine does not teach “selecting multiple destination points.” However, Appellant’s arguments are not well taken. Sorokine teaches a mobile station which communicates with two separate base stations (see Sorokine, column 9 lines 31-32).

Appellant further argues that Sorokine does not teach “calculating a group probability of access to at least one of said multiple destination collection points.” However, Appellant’s arguments are not well taken. As stated previously in the response to arguments of claim 1, base stations which have the highest likelihood of the best handoff (i.e. probability of access) are determined based on the generated neighbor list and the prediction search methods. Because the neighbor list is a list of multiple base stations and prediction search techniques are used on this list, a likelihood, or probability, of each base station is determined (see Sorokine, column 7 lines 9-11 and column 9 line 1).

Appellant further argues that Sorokine does not teach “comparing said calculated group probability of access to a threshold value.” However, Appellant’s arguments are not well taken. Sorokine teaches that the base station controller processes the R-PICH measurements from the neighbor list and compares this with a predetermined threshold. Therefore, Sorokine teaches comparing said calculated group probability of access (i.e. measurements from the neighbor list) to a threshold value (see Sorokine, column 9 lines 39-49).

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Claim 13

Appellant's arguments are persuasive and therefore the rejection with respect to claim 13 has been withdrawn.

Claim 16

Appellant argues that Sorokine does not teach "a sensor device for operation in a sensor net comprising: means for detecting...", "means for calculating a probability of future access by a mobile device to the sensor device utilizing recorded attempts to access measurement data by mobile devices", "means for receiving information related to probabilities of future access associated with other sensor devices within the sensor net", and "means for communicating information related to probabilities of future access to other sensor devices." However, Appellant's arguments are not well taken.

As stated above in the arguments for claim 1, Sorokine teaches a network of base stations and mobile stations where information is transferred back and forth between base station and mobile station (i.e. operating network) and the base station collects and gathers, or senses, information (i.e. sensor) (see Sorokine, column 7 lines 9-13). Because the base station collects data from the mobile station and measures the R-PICH of every mobile station (see Sorokine, column 9 line 65 – column 10 line 1), the base stations act as the sensors within the network (see Sorokine, column 7 lines 9-13).

Sorokine further teaches that the mobile station calls, or accesses, multiple base stations (i.e. access attempts of multiple nodes). By accessing each base station and determining the strength of the power from each base station, a neighbor list of all possible neighboring base stations is generated (see Sorokine, column 7 lines 9-13 and column 9 lines 31-32). Therefore, each base station, or node, detects access attempts by the mobile stations in the sensor network, as described above.

Sorokine further explains that the calls made by the mobile station to the base station run on the reverse channel (R-PICH) in a traffic state. The traffic state indicates the amount of activity over the channel during a period of time. The data from the R-PICH is subjected to prediction techniques which are used to search the neighbor list to determine the highest likelihood (i.e. calculated probability) for the best handoff of the mobile access to the most active base station (i.e. future access) (see Sorokine, column 7 lines 9-11 and column 9 line 1). Therefore, a respective probability of future access, or highest likelihood of future access, is calculated in response to the access attempts to the base stations.

Sorokine further teaches that the neighbor list is sent to both the mobile station and a base station controller, and the base station controller generates an effective neighbor list. The effective neighbor list consists of each base station that has a sufficiently strong R-PICH measurement (i.e. calculated probabilities) (see Sorokine, column 8 lines 5-15). Because the neighbor list is searched using prediction techniques and transmitted from the base station to the mobile station, information related to the calculated probabilities is communicated through the sensor net.

Sorokine further teaches that the base station controller then transmits, or routes, the effective neighbor list to the base station serving the mobile station (see Sorokine, column 8 lines 5-21 and lines 31-33). The effective neighbor list is made up of base stations which have sufficiently strong R-PICH data measurements. Therefore, measurement data is routed to various nodes using the calculated probabilities.

Claim 17

Appellant argues that Sorokine does not teach “means for receiving probabilities of future access from a mobile device, wherein said means for routing further operates in response to said means for receiving probabilities from a mobile device.” However, Appellant’s arguments are not well taken. Sorokine teaches a base station receiving an effective neighbor list from the base station controller (see Sorokine, column 8 lines 5-21). The neighbor list is a prioritized list of all possible base stations which are most likely to be selected for future handoff, or routing.

Claim 20

Appellant argues that Sorokine does not teach that “the means for communicating selects the subset of sensor devices in relation to respective probabilities of access to said subset of sensor devices and a cost function.” However, Appellant’s arguments are not well taken. Sorokine teaches that the mobile stations select the base stations (i.e. sensors) based on performance cost (see Sorokine, column 8 lines 31-44).

Claim 24

Appellant's arguments are persuasive and therefore the rejection with respect to claim 24 has been withdrawn.

Claim 25

Appellant argues that Sorokine does not teach "determining probabilities of future access by mobile devices to nodes of a sensor net" or "routing any measurement data utilizing the distributed information related to the determined probabilities." However Appellant's arguments are not well taken.

As explained in the rejection of claim 1, Sorokine further explains that the calls made by the mobile station to the base station run on the reverse channel (R-PICH) in a traffic state. The traffic state indicates the amount of activity over the channel during a period of time. The data from the R-PICH is subjected to prediction techniques which are used to search the neighbor list to determine the highest likelihood (i.e. calculated probability) for the best handoff of the mobile access to the most active base station (i.e. future access) (see Sorokine, column 7 lines 9-11 and column 9 line 1). Therefore, a respective probability of future access, or highest likelihood of future access, is determined in response to the access attempts to the base stations.

Sorokine further teaches that the base station controller then transmits, or routes, the effective neighbor list to the base station serving the mobile station (see Sorokine, column 8 lines 5-21 and lines 31-33). The effective neighbor list is made up of base stations which have sufficiently strong R-PICH data measurements. Therefore, measurement data is routed to various nodes using the calculated probabilities.

Claim 27

Appellant argues that Sorokine does not teach “receiving information from a mobile device related to future access activity of mobile devices.” However, Appellant’s arguments are not well taken. Sorokine teaches a base station receiving an effective neighbor list from the base station controller (see Sorokine, column 8 lines 5-21). The neighbor list is a prioritized list of all possible base stations which are most likely to be selected for future handoff, or routing.

Examiner’s response to Appellant’s arguments against the rejection of claims 4, 5, 18 and 26 under 35 U.S.C. 103.

Claim 5

Appellant’s arguments are persuasive and therefore the rejection with respect to claim 5 has been withdrawn.

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Claim 18

Appellant argues that neither Sorokine nor Raith teach that “the probabilities of access are correlated to a time of day.” However, Appellant’s arguments are not well taken. Raith teaches correlating the performance of a handoff with the position of a handoff and storing the information with respect to the handoff position and attributes of the handoff, such as the time of day (see Raith, column 8 lines 14-19, lines 54-64 and Figure 5).

Claim 26

Appellant’s arguments are persuasive and therefore the rejection with respect to claim 26 has been withdrawn.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Mary Catherine Baran/

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TQAS TC 2800